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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,964	03/31/2004	Holger Schwedes	13911-112001 / 2004P00119	7712
32864	7590	06/06/2006	EXAMINER	
FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			RAAB, CHRISTOPHER J	
			ART UNIT	PAPER NUMBER
			2631	
DATE MAILED: 06/06/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/815,964	Applicant(s) SCHWEDES, HOLGER	
	Examiner Christopher J. Raab	Art Unit 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because figure 3 fails to show proper details about the flow of the method as described in the specification. It is unclear as to the direction in the flow diagram to follow when a term is either insensitively equal to the search term or not, and the fact that after a term is added to a result list, that the next term is evaluated. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

02. The Specification is objected to because of the inconsistent language used throughout the application in reference to case sensitivity. When mentioning the terms sensitive and insensitive, and the various different forms, they should always be preceded with "case-" or "case " to provide consistency.

Claim Rejections – 35 USC § 102

03. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

04. **Claims 1-14** are rejected under 35 U.S.C. 102(a) as being anticipated by United Scripters.

Consider **claims 1 – 5**, United Scripters clearly show a method of searching an Array (read as dictionary comprising an ordered list of terms) comprising: sorting an Array (read as setting a dictionary sorting function to sort the ordered list of terms base on case sensitivity) (page 3 lines 12 – 20), and performing a binary search which divides each Array in slices and if it finds at the middle of that slice a range within which the searched for item is located, it shrinks it there, otherwise divides by half again (read as determining whether the term corresponding to the search term is in an upper or lower half of the ordered list, further comprising selecting an upper or lower half of the of the ordered list that includes the search term) (page 2 lines 20 – 28) to return a found instance (read as determining whether the term corresponding to a search term is the last term in the remaining ordered list and returning the term to a search engine) (page 3 lines 2 – 5, page 4 lines 25 - 34).

Consider **claim 6**, United Scripters clearly show a method of searching an Array (read as a method of case-insensitive search of a dictionary), wherein the dictionary comprises an ordered list of terms comprising the steps of: sorting the Array with a case insensitive version with the highest value at the last position (read as setting a dictionary sorting function to sort the ordered list of terms based on case-insensitivity) (page 3 of 6 lines 6 – 12) and performing a classical binary search (read as executing a binary search of the dictionary according to the dictionary sorting function) (page 2 lines 20 – 28) and such that capital letters would all go before the lowercase ones and numbers starting with the same number would be associated (read as based on the binary numbers corresponding to the ASCII coding of alphanumeric characters in the ordered list of terms) (page 18 lines 8 – 20).

Consider **claims 7 – 11**, and **as applied to claim 6 above** United Scripters clearly show a method comprising steps of: returning either the position index of the first item found matching the given searched value, or an Array which collects all the positions indexes where such value has been found in the Array such that you can search for all the entries that match the given searched value by making micro loops around the index unless you find a higher or a lower number in order to assess the boundaries of the item (read as determining whether each term in the ordered list is insensitively equal to a search term, and if a term in the ordered list is insensitively equal to a search term, adding the term to a result list, and if a term in the ordered list is not insensitively equal to a search term, evaluating a next term in the ordered list, and compiling one or more terms in a result list and returning the result list to a search engine, and determining a last term of the ordered list that is insensitively equal to a search term) (page 3 lines 7 – 10).

Consider **claim 12** and **as applied to claim 6 above**, United Scripters clearly show that the search term can be a String (written as any combination of uppercase and lowercase characters) (read as converting the search term to all lowercase characters to obtain the last term) (page 4 lines 7 – 9).

Consider **claim 13**, United Scripters clearly show a system to receive an input Array object (read as receive a user search query for a search of the dictionary) (page 4 lines 5 – 6) to return an Array whose each entry is the numerical index value of the input Array where an instance of the given find argument was located (read as return a search result list) (page 4 lines 10 – 27) such that the sorting subroutine can perform in one of four ways: the first will put the highest value as entry[0], the second will put the highest value at the last position, the third and fourth being case-insensitive versions of the first two processes (read as the search engine is further configured to enable a user to select whether to perform a case-sensitive or case-insensitive search of the dictionary) (page 3 of 6 lines 5 – 11) such that the dictionary can be ordered such that capital letters would all go either before or after the lowercase ones, and numbers starting with the same number would be associated (read as an ordering module configured to order the terms in the dictionary based in part on the binary numbers corresponding to the ASCII coding of alphanumeric characters comprising the terms in the dictionary) (page 18 lines 8 – 20).

Consider **claim 14** and **as applied to claim 13 above**, United Scripters clearly show a system wherein an Argument determines whether the sorting will or will not be case-insensitive (read as a dictionary sorting function that sorts the ordered list of terms base on case-sensitivity or case-insensitivity in accordance with a user selection from the search engine) (page 3 of 6 lines 23 – 34).

Claim Rejections - 35 USC § 103

05. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

06. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

07. **Claims 1 – 6, 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Flasza et al.** (U.S. PGPub # 2003/0233340) in view of **Wijnholds (U.S. Patent # 5,953,717)**.

Consider **claims 1 – 5**, Flasza et al. shows a case sensitive sort (read as a function to sort the ordered list of terms based on case sensitivity) using a method of dictionary sort (read as dictionary sorting function), such that by sorting terms with the dictionary sort order table causes terms that are the same word, but different cases, to be sorted as different words, i.e. a case sensitive sort (paragraph [0024]). However, Flasza et al. does not specifically disclose a (binary search) method to locate where in the ordered list the term exists.

Wijnholds clearly shows a binary search method (read as a method of searching a dictionary using one or more search terms) comprising:

Taking the key of a record halfway in the actual list and making a comparison between said key and the search-value (read as determining, according to the dictionary sorting function, whether a term corresponding to a search term is in an upper or lower half of the ordered list), selecting either the first or the second half of the actual list as a new list (read as selecting whether a term corresponding to a search term is in an upper or lower half of the ordered list), or selecting the record having said key as the desired record (read as returning the term to a search engine), and repeating the first two steps for the new list until the comparison yields correspondence (read as further determining/selecting whether the term corresponding to the search term is in an upper or lower half of a previously selected upper or lower half of the ordered list), or until the actual list has a single record (read as determining whether the term is the last term in the remaining ordered list) (column 2 lines 23-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the binary search taught by Wijnholds into the dictionary sorting function taught by Flasz et al. for the purpose of effectively searching a dictionary database.

Consider **claims 6 and 11**, Flasz et al. clearly shows a case insensitive sort (read as a function to sort the ordered list of terms based on case sensitivity) using a method of dictionary sort (read as dictionary sorting function), such that both the uppercase "A" and lowercase "a" are assigned the same weight (read as sort the ordered list of terms based on case-insensitivity) or that the uppercase "A" and lowercase "a" are assigned consecutive collating weights. Accordingly, the position of the terms can be determined by using the ASCII values (paragraphs [0026] – [0027]). However, Flasz does not specifically disclose executing a binary search on the dictionary nor determining a last term that is insensitively equal to a search term.

Wijnholds shows a method of executing a binary search, steps comprising: taking the key of a record halfway the actual list, selecting under control of the comparison either the first or the second half of the actual list as a new list, and repeating the previous steps until the comparison yields correspondence (read as executing a binary search of the dictionary according to the dictionary sorting function) (column 1 lines 23 – 60). Wijnholds also shows a binary search method such that the search

continues until the list comparison yields correspondence (read as determining a last term of the ordered list that is equal to a search term) (column 2 lines 57-60).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the binary search method taught by Wijnholds into the dictionary sorting function taught by Flasz et al. for the purpose of locating where in the dictionary the search term exists.

Claims 7 – 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Flasz et al. (U.S. PGPub # 2003/0233340)** in view of **Wijnholds (U.S. Patent # 5,953,717)** in further view of **Dinh et al. (U.S. PGPub 2005/0102276)**.

Consider **claims 7, 8, and 10** and **as applied to claim 6 above**, Flasz et al. in view of Wijnholds disclose the claimed invention except for determining which terms are insensitively equal to the search terms and returning such insensitively equal terms.

Dinh et al. shows a method of performing case insensitive searches of a database (read as determining whether each term in the ordered list is insensitively equal to a search term) (paragraphs [0012] – [0013]), and shows a method such that if there is a match (read as if a term in the ordered list is insensitively equal to a search term), the entry is returned as a result of the search of the database (read as adding the term to a result list) (paragraphs [0012] – [0013]), and also shows a method such that if there is a match, the original entry in the column is returned as a result of the search of the relational database (read as compiling one or more terms in the result list) and that a server provides a database engine (read as search engine) for returning the results (paragraphs [0013], [0037]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the search methods taught by Dinh et al. into the sort and search method taught by Flasz et al. in view of Wijnholds for the purpose of finding and returning the terms in the dictionary that are insensitively equal to the search term.

Consider **claim 9** and **as applied to claim 7**, Flasz et al. in view of Wijnholds in further view of Dinh et al. disclose the claimed invention except that if the next term should be evaluated if the term is not found in the dictionary.

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Wijnholds shows a search method such that if the comparison doesn't yield correspondence (read as if a term in the ordered list is not insensitively equal to a search term), to repeat the steps of the search method (read as evaluating a next term in the ordered list) (column 2 lines 47 – 60).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the search method taught by Wijnholds into the sort and search method taught by Flasz et al, in view of Wijnholds and in further view of Dinh et al. for the purpose of finding which terms in the sorted ordered list are equal to the search term.

Consider **claim 12**, and **as applied to claim 11**, Flasz et al. in view of Wijnholds disclose the claimed invention except for converting a search term to all lowercase letters for search purposes.

Dinh et al. shows that one way to search the database is to convert the search term to a case-biased version (read as converting the search term to all lowercase characters) such that the search term has a predetermined pattern of character cases, and could, for example, be all uppercase or lowercase characters (paragraphs [0045] – [0046]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of case-biased terms taught by Dinh et al. into the sort and search taught by Wijnholds and Flasz et al. for the purpose of finding the last term in the sorted dictionary.

Claims 13 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dinh et al. (U.S. PGPub 2005/0102276)** in view of **Flasz et al. (U.S. PGPub # 2003/0233340)**.

Consider **claims 13 and 14**, Dinh et al. clearly shows a method for performing case sensitive and case insensitive searches within a database engine (read as search of the dictionary). It is shown that based on the setting of an attribute (read as the search engine is further configured to enable a user to select), the database is signaled to either perform case sensitive or case insensitive searches (read as whether to perform a case-sensitive or case-insensitive search of the dictionary) (paragraphs [0012] – [0013]). However, Dinh et al. does not specifically disclose that the ordering of the terms can be done using the ASCII coding of alphanumeric characters nor that the dictionary sorting function is based on case-sensitivity or case-insensitivity based on user selection.

Flasza et al. shows that the order of characters in a computer character set can be done via the ASCII values corresponding to the terms within the dictionary (read as based in part on the binary numbers corresponding to the ASCII coding of alphanumeric characters comprising the terms in the dictionary) (paragraphs [0019] – [0020]), and shows a dictionary sorting function to allow both case sensitive and case insensitive sorting (read as sorts the ordered list of terms based on case-sensitivity or case-insensitivity) (paragraphs [0024] – [0027]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the case sensitive and case insensitive sorting taught by Flasza et al. into the searching system taught by Dinh et al. for the purpose of allowing user-based selection of which type of sort to perform on the dictionary.

Conclusion

08. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) De Bellis, PGPub # 2002/0046209, Search-on-the-fly with merge function

09. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Christopher Raab whose telephone number is (571) 270-1090. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Christopher Raab
C.R./cr

May 12, 2006


RAFAEL PEREZ-GUTIERREZ
PRIMARY EXAMINER
5/30/06